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Contract No. DAAH01-91-D-R002
Delivery Order No. 98

Targets Management Initiative Modeling and Simulation

(5-34585)

Final Technical Report for Period
7 October 1996 through 31 December 1996

August 1999

Prepared by:

Gary A. Maddux

Research Institute
The University of Alabama in Huntsville
Huntsville, Alabama 35899

Prepared for:

U.S. Army Missile Command
Redstone Arsenal, AL 35898
Attn.: Ms. Carole Frazier

PREFACE

This technical report was prepared by the staff of the Research Institute, The University of Alabama in Huntsville. The purpose of this report is to provide documentation of the work performed and results obtained under Delivery Order 98 of MICOM Contract No. DAAH01-91-D-R002. Mr. Gary Maddux was the principal investigator. Technical expertise and insights in target management initiative modeling applications was provided by Ms. Carole Frazier, Systems Simulation and Development Directorate, Research, Development, and Engineering Center, U.S. Army Missile Command.

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Prepared for: Commander
U.S. Army Missile Command
Redstone Arsenal, AL 35898

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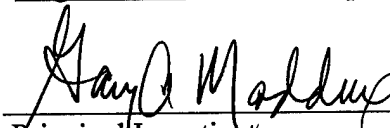

Principal Investigator

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1.0 Introduction

The U.S. Army Missile Command Systems Simulation and Development Directorate (SSDD) of the Research, Development and Engineering Center (RDEC) conducted an investigation of Targets Management Initiative (TMI) modeling and simulation. This research was intended to define requirements and more effectively utilize and manage multi-service modeling and simulation capabilities. Research in this area should facilitate the adoption of new technologies that would significantly improve the performance of missile and other Department of Defense weapon systems.

SSDD required engineering support in performing assessments on the above technologies. The Systems Management and Production Laboratory at The University of Alabama in Huntsville (UAH) Research Institute (RI) was tasked to provide this engineering support and analytical capability.

2.0 Objective

The purpose of this research task was to identify needs and deficiencies in the area of target modeling; lay the groundwork for a standardization methodology and accepted DoD procedure in the development of target models; and identify the tasks and associated schedule for accomplishing Phase 1 of the Needs and Deficiencies Study. UAH conducted research to identify and categorize emerging technologies based on these requirements.

3.0 Statement of Work

The statement of work, as outlined in delivery order 98, was as follows:

UAH shall provide the personnel, resources, expertise and materials required to perform the following efforts:

- 3.1 UAH shall conduct research in the area of target modeling and simulation to identify and categorize emerging technologies based on potential for DoD weapon systems applications, analysis and simulations. This research should be conducted in such a manner that consideration for multi-service applications and weapon systems is a primary objective. UAH shall attend the workshop and assist the government in identifying the needs and deficiencies as outlined in the discussions.
- 3.2 UAH shall assist in conducting and facilitating technical discussions on common modeling and simulation procedures and interfaces to help provide the simulation community with consistent, reusable target models

and target simulation capabilities. These technical discussions will be conducted at the workshop and in side meeting during the workshop.

- 3.3 The Government will host a DoD workshop, 8-10 October 1996 at Building 5400, Redstone Arsenal, AL to facilitate technical information exchange. UAH shall participate in the selection process of the topics presented.

4.0 Description of Workshop

The work performed on this task led directly to the Targets Management Initiative Modeling and Simulation Workshop, which was held at the Building 5400 on October 8-10, 1996. The findings of this research task were included in the Proceedings of the workshop, and were delivered to all attendees of the workshop. The media chosen for the Proceedings was CD-ROM.

5.0 Conclusion and Recommendations

During the time frame allocated by the delivery order, members of the UAH Applied Research Program, with the cooperation of representatives from MICOM SSDD, performed an investigation of targets management modeling and simulation. Results of these efforts were presented at a locally held workshop. Detailed findings can be found in the Proceedings of that workshop, which was compiled by UAH and delivered under separate cover.